

Work Order ID 52472

September 25, 2009 1:42:04 PM



Page 1

Item ID: D130-701-041
Revision ID: B
Item Name: Heli-Utility-Basket

Accept



Setup Start



Stop



Start Date: 09/25/09 Start Qty: 1.00



Cust Item ID:

Required Date: 09/30/09 Req'd Qty: 1.00



Customer:

Reference: Return 2009 / RA109099

Run Start



Stop



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: 09-25-25 SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
IIN D130-701	Rev B

100 QC5- Inspect part completeness to step on W/O 0.00



QC Memo 0.00

Quality Control Original D130-701-041 B41624 CHG003

110 Assemble as per dwg 0.00



HandFinish Memo 0.00

Hand Finishing Clean and touch up all parts as necessary with Imron white per QSI005.

Keep the identification tape on the parts for packaging reference.

120 QC5- Inspect part completeness to step on W/O 0.00



QC Memo 0.00

Quality Control

DART Dart Aerospace Ltd. 1270 ABERDEEN ST. HAWKESBURY ON, CANADA K6A 1K7				TC APPROVAL # 09-89 TEL: 1-613-632-5200	
P/N	D130-701-041	CHG	CHG003		
DESC.	Heli-Utility-Basket	STC	SH94-14		
LOT	B41624	STC	SR00213NY		
MODEL	EC 130	STC			
MADE IN CANADA				D2729-1	

BR 09-10-5

①

27 502/10/06

④

Work Order ID 52472

September 25, 2009 1:42:04 PM



Page 2

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Item Name: Heli-Utility-Basket

Accept



Setup Start



Stop



Start Date: 09/25/09 Start Qty: 1.00
Required Date: 09/30/09 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference: Return 2009 / RA109099

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130



Packaging

Packaging

Identify as per dwg & Stock Location: New C

0.00

Memo

0.00

New labels required with the new batch # @ CHG003.

Re-package and identify the hardware with the original batch #'s. See ID tape & original w/o for reference.

remove the tape prior to packaging

PL 0910-4

140



QC

Quality Control

QC4- 100% Inspect kits for completeness

0.00

Memo

0.00

2) 501/10/07(71)1

150



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

09/10/07u 09-1007

Location/Lot Activity

October 7, 2009 10:31:22 AM

Page 1 of 1

Criteria : All Items All Locations Lot: 41624 All Transaction Types All Dates Report on Locations & Lots

Transaction Type	Item ID/ Item Name	Warehouse Location ID	Reason	Employee ID Location Code	Loc Trans Date	LocQtyPrior/ Location Qty	Lot Number	LotQtyPrior/ Lot Qty	Shelf Life Date Lot Code	Extended Cost
Issue	D130-701-041RevB / Heli-Utility-Basket	Main Warehouse Return 2009	52472	LACE01		1.0000		1.0000		
					9/25/09	-1.0000	41624	-1.0000		-\$3,710.00
								-1.0000		-\$3,710.00
RMA Inspect	D130-701-041RevB / Heli-Utility-Basket	Main Warehouse RMAInspect	RA109099	MURD01		1.0000		1.0000		
					9/25/09	-1.0000	41624	-1.0000	QC21	-\$3,710.00
		Main Warehouse Return 2009	RA109099	MURD01		0.0000		0.0000		
					9/25/09	1.0000	41624	1.0000		\$3,710.00
								0.0000		\$0.00
RMA Receipt	D130-701-041RevB / Heli-Utility-Basket	Main Warehouse RMAInspect	RA109099	MURD01		0.0000		0.0000		
					9/25/09	1.0000	41624	1.0000		\$3,710.00
								1.0000		\$3,710.00
Shipment	D130-701-041RevB / Heli-Utility-Basket	Main Warehouse FG	SO100390	BEDF01		1.0000		1.0000		
					8/05/09	-1.0000	41624	-1.0000		-\$3,710.00
								-1.0000		-\$3,710.00

Date: Friday, 09/18/09 9:50:02 AM

User: Melanie Fauteux

JOB HISTORY : DETAIL

New P/W

Job Number	: 41624	Customer	: Dart Helicopters Services
Estimate Number	: 10819	DWG Name	: HELI UTILITY BASKET <i>chy 003</i>
Purchase Order #	:	Part Number	: D130701041
Complete Date	: 10/09/08 4:29:03 PM	DWG Number	: IIN D130-701 REV B
		Rev.	: N/A

23.0 AN9704-Washer INVENTORY ITEM							
DATE	EMPLOYEE	TYPE	Qty		COST		
10/07/08	DESJ02: Desjardins, Line	AN9704	4.000		\$0.62		Lot # 108928 Qty. 4
Subtotal:		QTD:	0	CTD:	4	\$0.62	

24.0 MS21042L3-Nut INVENTORY ITEM							
DATE	EMPLOYEE	TYPE	Qty		COST		
10/07/08	DESJ02: Desjardins, Line	MS21042L3	2.000		\$0.43		Lot # 108701 Qty. 2
Subtotal:		QTD:	0	CTD:	2	\$0.43	

25.0 MS21042L4-Nut INVENTORY ITEM							
DATE	EMPLOYEE	TYPE	Qty		COST		
10/07/08	DESJ02: Desjardins, Line	MS21042L4	4.000		\$0.85		Lot # 108145 Qty. 4
Subtotal:		QTD:	0	CTD:	4	\$0.85	

26.0 MS21042L5-Nut INVENTORY ITEM							
DATE	EMPLOYEE	TYPE	Qty		COST		
10/07/08	DESJ02: Desjardins, Line	MS21042L5	4.000		\$2.26		Lot # 108161 Qty. 4
Subtotal:		QTD:	0	CTD:	4	\$2.26	

27.0 MS20600AD4W3-Cherry Rivets INVENTORY ITEM							
DATE	EMPLOYEE	TYPE	Qty		COST		
10/07/08	DESJ02: Desjardins, Line	MS20600AD4W3	2.000		\$0.24		Lot # 18071 Qty. 2
Subtotal:		QTD:	0	CTD:	2	\$0.24	

28.0 SMALL FAB 1 Internal Operation							
DATE	EMPLOYEE	TYPE	Qty	Time(hrs)	COST	MTime(hrs)	Mach. Cost
10/08/08	LACR01: Lacroix, Francis	Run	1.000	2.64	\$41.05	2.64	99.75
Subtotal:		QTD:	1	CTD:	0	2.64	\$140.80

31.0 D3173041-Beam Assembly INVENTORY ITEM							
DATE	EMPLOYEE	TYPE	Qty		COST		
10/08/08	DESJ02: Desjardins, Line	D3173041	2.000		\$990.18		Lot # 37157 Qty. 1 Lot # 41268 Qty. 1
Subtotal:		QTD:	0	CTD:	2	\$990.18	<i>Small Touch up →</i>

32.0 D3177041-Bracket INVENTORY ITEM							
DATE	EMPLOYEE	TYPE	Qty		COST		
10/08/08	DESJ02: Desjardins, Line	D3177041	1.000		\$1890.13		Lot # 24923 Qty. 1
Subtotal:		QTD:	0	CTD:	1	\$1890.13	<i>Touch up</i>

33.0 D3177043-Bracket INVENTORY ITEM							
DATE	EMPLOYEE	TYPE	Qty		COST		
10/08/08	DESJ02: Desjardins, Line	D3177043	1.000		\$1103.10		Lot # 37158 Qty. 1
Subtotal:		QTD:	0	CTD:	1	\$1103.10	<i>Touch-up</i>

Date: Friday, 09/18/09 9:50:02 AM

User: Melanie Fauteux

JOB HISTORY : DETAIL

Job Number	: 41624	Customer	: Dart Helicopters Services
Estimate Number	: 10819	DWG Name	: HELI UTILITY BASKET
Purchase Order #	:	Part Number	: D130701041
Complete Date	: 10/09/08 4:29:03 PM	DWG Number	: IIN D130-701 REV B
		Rev.	: N/A

34.0 D3180041-Strut Assembly INVENTORY ITEM						
DATE	EMPLOYEE	TYPE	Qty		COST	
10/09/08	FAUT01: Fauteux, Melanie	D3180041	1.000		\$121.07	Lot # 41270 Qty. 1
Subtotal: QTD: 0 CTD: 1 \$121.07						

35.0 D31811-Bushing INVENTORY ITEM						
DATE	EMPLOYEE	TYPE	Qty		COST	
10/08/08	DESJ02: Desjardins, Line	D31811	1.000		\$1.22	Lot # 18770 Qty. 1
Subtotal: QTD: 0 CTD: 1 \$1.22						

36.0 AN47A-Bolt INVENTORY ITEM						
DATE	EMPLOYEE	TYPE	Qty		COST	
10/08/08	DESJ02: Desjardins, Line	AN47A	1.000		\$0.19	Lot # 108077 Qty. 1
Subtotal: QTD: 0 CTD: 1 \$0.19						

37.0 AN412A-Bolt INVENTORY ITEM						
DATE	EMPLOYEE	TYPE	Qty		COST	
10/08/08	DESJ02: Desjardins, Line	AN412A	2.000		\$0.56	Lot # 108672 Qty. 2
Subtotal: QTD: 0 CTD: 2 \$0.56						

38.0 AN510A-Bolt INVENTORY ITEM						
DATE	EMPLOYEE	TYPE	Qty		COST	
10/08/08	DESJ02: Desjardins, Line	AN510A	4.000		\$1.53	Lot # 108827 Qty. 4
Subtotal: QTD: 0 CTD: 4 \$1.53						

39.0 AN523A-Bolt INVENTORY ITEM						
DATE	EMPLOYEE	TYPE	Qty		COST	
10/08/08	DESJ02: Desjardins, Line	AN523A	2.000		\$1.24	Lot # 19278 Qty. 2
Subtotal: QTD: 0 CTD: 2 \$1.24						

40.0 AN960JD416-Washer INVENTORY ITEM						
DATE	EMPLOYEE	TYPE	Qty		COST	
10/08/08	DESJ02: Desjardins, Line	AN960JD416	5.000		\$0.15	Lot # 108827 Qty. 5
Subtotal: QTD: 0 CTD: 5 \$0.15						

41.0 AN960JD516-Washer INVENTORY ITEM						
DATE	EMPLOYEE	TYPE	Qty		COST	
10/08/08	DESJ02: Desjardins, Line	AN960JD516	12.000		\$0.57	Lot # 109059 Qty. 12
Subtotal: QTD: 0 CTD: 12 \$0.57						

42.0 MS21042L4-Nut INVENTORY ITEM						
DATE	EMPLOYEE	TYPE	Qty		COST	
10/08/08	DESJ02: Desjardins, Line	MS21042L4	3.000		\$0.63	Lot # 108145 Qty. 3
Subtotal: QTD: 0 CTD: 3 \$0.63						

Date: Friday, 09/18/09 9:50:02 AM
User: Melanie Fauteux

JOB HISTORY : DETAIL

Job Number	: 41624	Customer	: Dart Helicopters Services
Estimate Number	: 10819	DWG Name	: HELI UTILITY BASKET
Purchase Order #	:	Part Number	: D130701041
Complete Date	: 10/09/08 4:29:03 PM	DWG Number	: IIN D130-701 REV B
		Rev.	: N/A

43.0 MS21042L5-Nut INVENTORY ITEM

DATE	EMPLOYEE	TYPE	Qty	COST	
10/07/08	DESJ02: Desjardins, Line	MS21042L5	6.000	\$3.39	Lot # 108161 Qty. 6

Subtotal: QTD: 0 CTD: 6 \$3.39

		TIME	COST
	Machine Time:	2.64	\$99.75
	Labor:	2.64	\$41.05
	Sub-contract (external Op.):		\$0.00
	INVENTORY ITEM:		\$4271.56
	SUB-COMPONENT (SUB-JOB):		\$4139.54
Total:			\$8551.90

COST PER UNIT: \$8551.90

4. WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D130-701-041 (LH installation)	120 lb 54 kg	- 47.4 in - 1.20 m	- 5688 in-lb - 64.8 m-kg	133.9 in 3.40 m	16068 in-lb 183.6 m-kg
D130-701-041 (RH installation)	120 lb 54 kg	+ 47.4 in + 1.20 m	+ 5688 in-lb + 64.8 m-kg	133.9 in 3.40 m	16068 in-lb 183.6 m-kg
2 x D130-701-041 (LH & RH installation)	224 lb 102 kg	0.0 in 0.00 m	0 in-lb 0.0 m-kg	133.9 in 3.40 m	29994 m-kg 346.8 m-kg

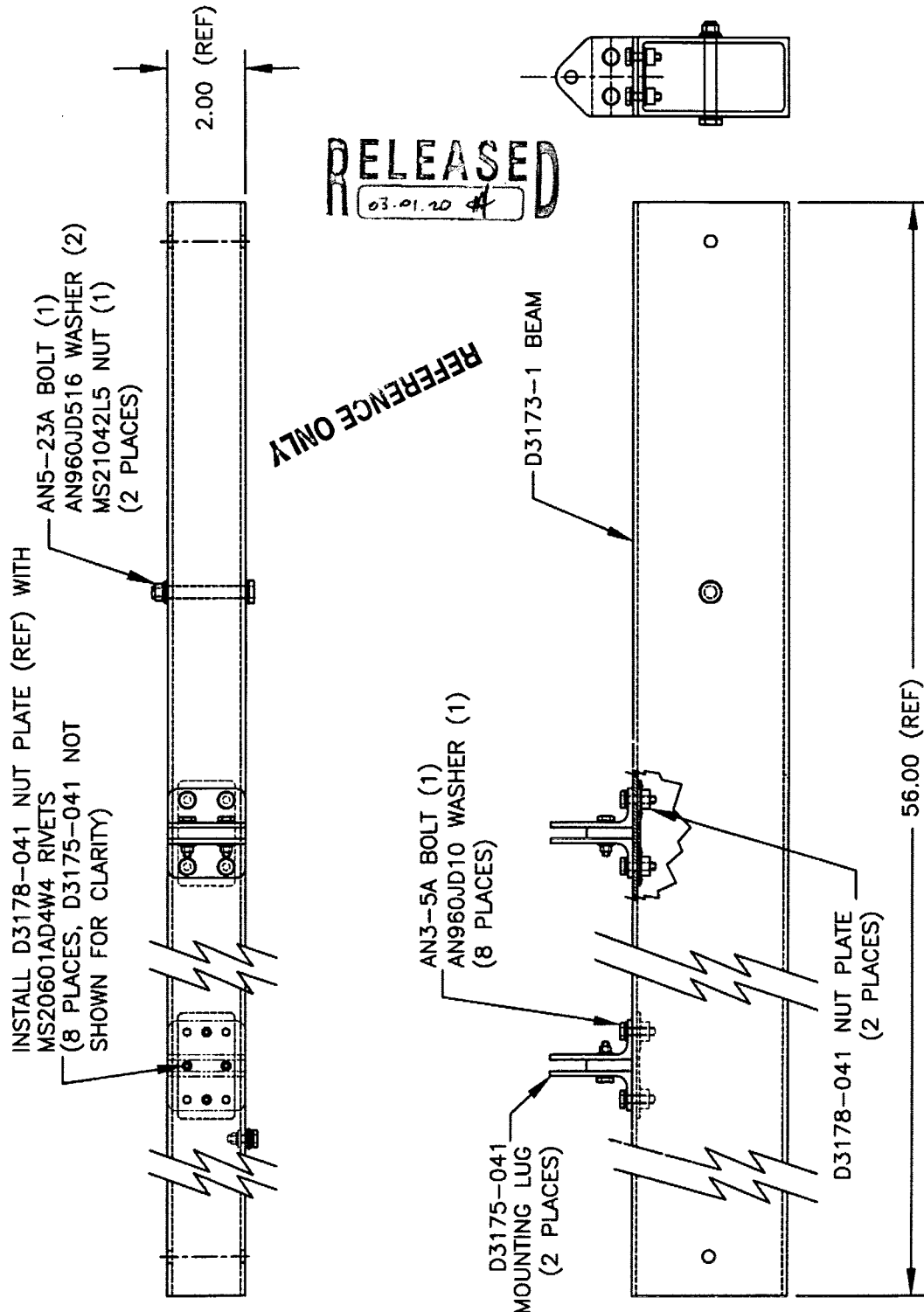
5. PARTS LIST

Qty -041	Part Number	Description
X	D130-701-041	HELI-UTILITY-BASKET
2	D2022-101	SPACER
1	D2258-220	LABEL
1	D2332-041	PROP ASSEMBLY
1	D2512	BASKET LID ASSEMBLY
1	D2530	HANDLE ASSEMBLY
2	D2535	SPRING
2	D2537	BUSHING
2	D2931	BUMPER
1	D3172-041	BASKET BASE ASSEMBLY
2	D3173-041	BEAM ASSEMBLY ✓
1	D3177-041	BRACKET ASSEMBLY ✓
1	D3177-043	BRACKET ASSEMBLY ✓
1	D3180-041	STRUT ASSEMBLY ✓
1	D3181-1	BUSHING ✓
2	AN3-16A	BOLT
2	AN4-12A	BOLT ✓
4	AN4-22A	BOLT
4	AN4-24A	BOLT
① 3	AN4-7A -2	BOLT ✓
4	AN5-10A	BOLT ✓
4	AN5-17A	BOLT
2	AN5-23A	BOLT ✓
③ 7	AN960JD416 -4	WASHER ✓
2	AN960JD416L	WASHER
⑫ 16	AN960JD516 -4	WASHER ✓
2	AN960JD8	WASHER
4	AN970-4	WASHER
2	MS20000AD4W3	RIVET
2	MS21042L3	NUT (OR MS21042-3)
③ 7	MS21042L4 -2-2	NUT (OR MS21042-4) ✓
⑥ 10	MS21042L5 -4	NUT (OR MS21042-5) ✓

52472

DART

DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3173	REV. B SHEET 2 OF 3
DATE 03.01.07	TITLE BEAM ASSEMBLY		SCALE 1:4

**D3173-041 BEAM ASSEMBLY****Copyright © 2002 by DART AEROSPACE LTD**

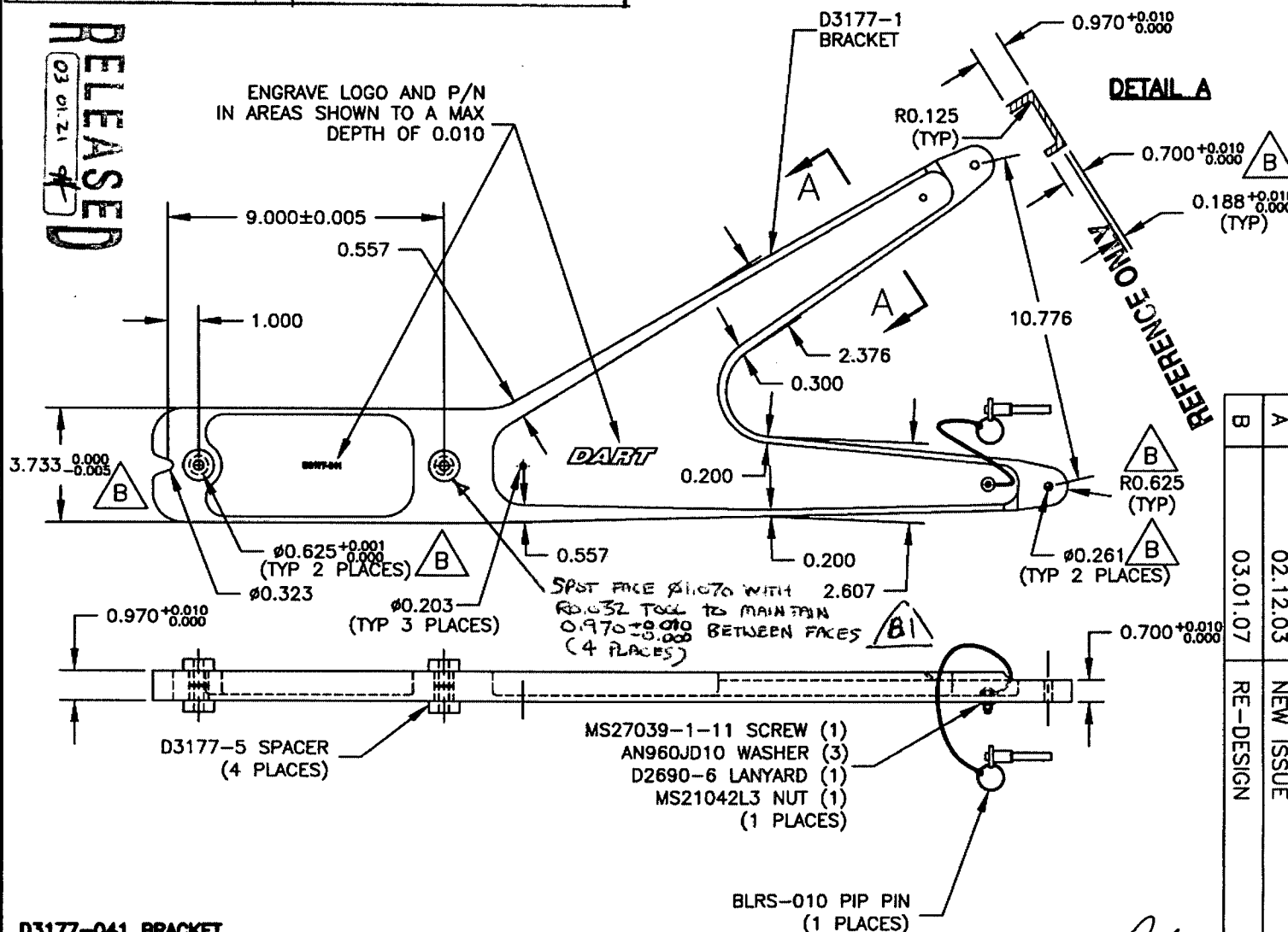
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03.01.07	CP	HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.
03.01.07	CP	D3177
DATE	TITLE	REV. B
03.01.07	BRACKET	NEW ISSUE
03.01.07	RE-DESIGN	SHEET 1 OF 3
		SCALE 1:5

B1	03.02.25 CP	ADD SPST FACE
B2	03.11.24 CP	ADD D3177-7

RELEASED
03.01.21

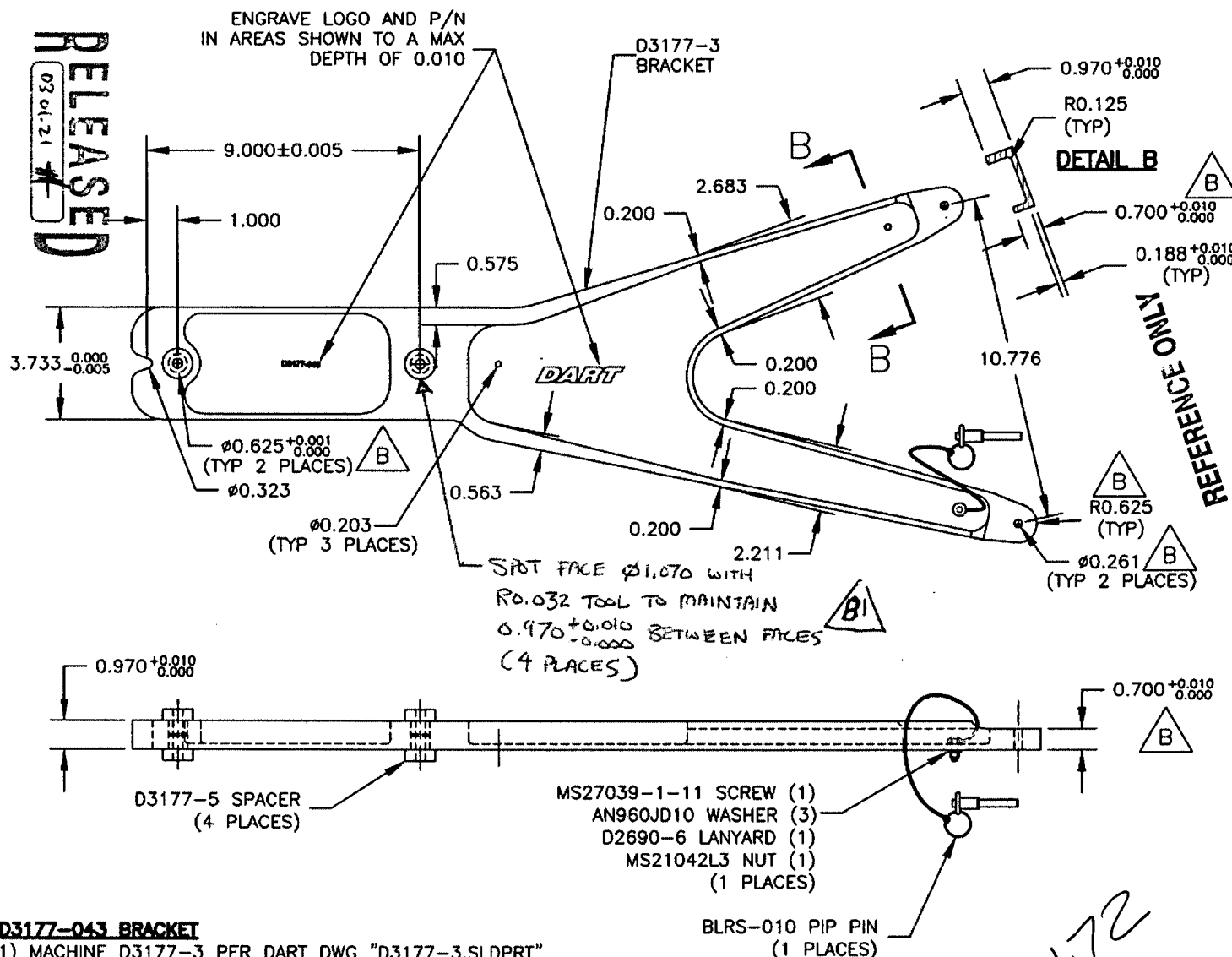
**D3177-041 BRACKET**

- 1) MACHINE D3177-1 PER DART DWG "D3177-1.SLDPRT"
MATERIAL: 6061-T6 ALUMINUM BAR (QQ-A-250/11 OR QQ-A-200/8)
(REF DART SPEC. M6061T6S OR M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 (PRIOR TO ASSEMBLY)
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3 (AFTER ASSEMBLY)
- 4) TOLERANCES ARE PER QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

DART



DESIGN	Q	DRAWN BY	Q	DART AEROSPACE LTD
CHECKED		APPROVED		HAWKESBURY, ONTARIO, CANADA
DATE	03.01.07	DRAWING NO.	D3177	REV. B
		TITLE	BRACKET	SHEET 2 OF 3
		SCALE	1:5	



D3177-043 BRACKET

- 1) MACHINE D3177-3 PER DART DWG "D3177-3.SLDPRT"
MATERIAL: 6061-T6 ALUMINUM BAR (QQ-A-250/11 OR QQ-A-200/8)
(REF DART SPEC. M6061T6S OR M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 (PRIOR TO ASSEMBLY)
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3 (AFTER ASSEMBLY)
- 4) TOLERANCES ARE PER QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

52472

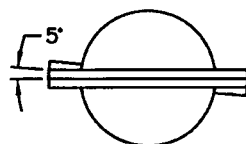
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CHECKED <i>CE</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3180	REV. B	SHEET 1 OF 2
DATE 07.05.23		TITLE STRUT ASSEMBLY	SCALE 1:2	
A	03.01.06	NEW ISSUE		
B	07.05.23	CURVE ADDED		

RELEASED
07.06.08

52472

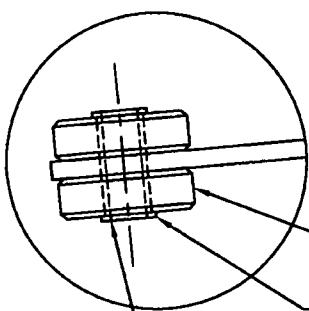
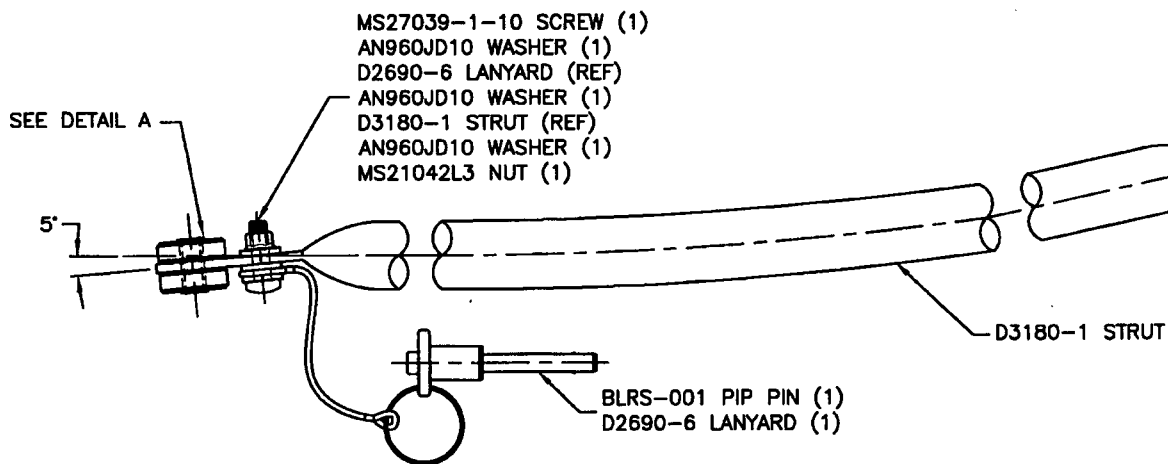


VIEW B-B
SCALE 1:1

QTY	PART NUMBER	DESCRIPTION
X	D3180-041	STRUT ASSEMBLY
1	D3180-1	STRUT
1	D2690-6	LANYARD
2	D2022-101	SPACERS
3	AN960JD10	WASHER
1	MS27039-1-10	SCREW
1	BLRS-001	PIP PIN
1	MS21042L3	NUT
1	A1449	GROMMET

D3180-041 STRUT ASSEMBLY

REFERENCE ONLY

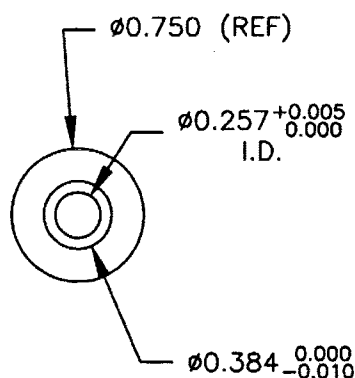
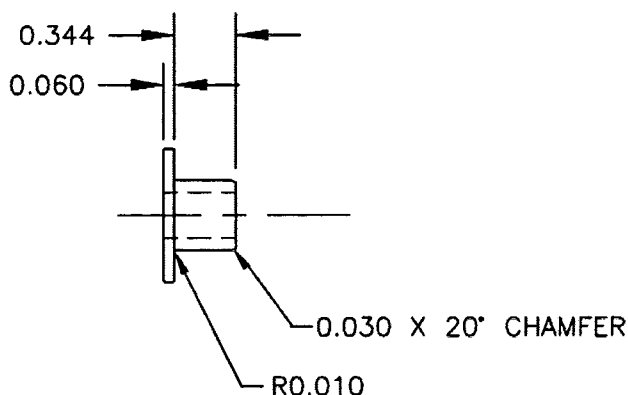


DETAIL A
SCALE 1:1



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3181	REV. A SHEET 1 OF 1
DATE 03.01.06		TITLE BUSHING	SCALE 1:1
A	03.01.06	NEW ISSUE	

RELEASED
03.01.20 *[Signature]*



227res

D3181-1 BUSHING

REFERENCE ONLY

NOTES

- 1) MATERIAL: AISI 303 BAR, ø0.75 (REF DART SPEC. M303R0.75)
- 2) BREAK ALL SHARP CORNERS 0.005 TO 0.010
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES

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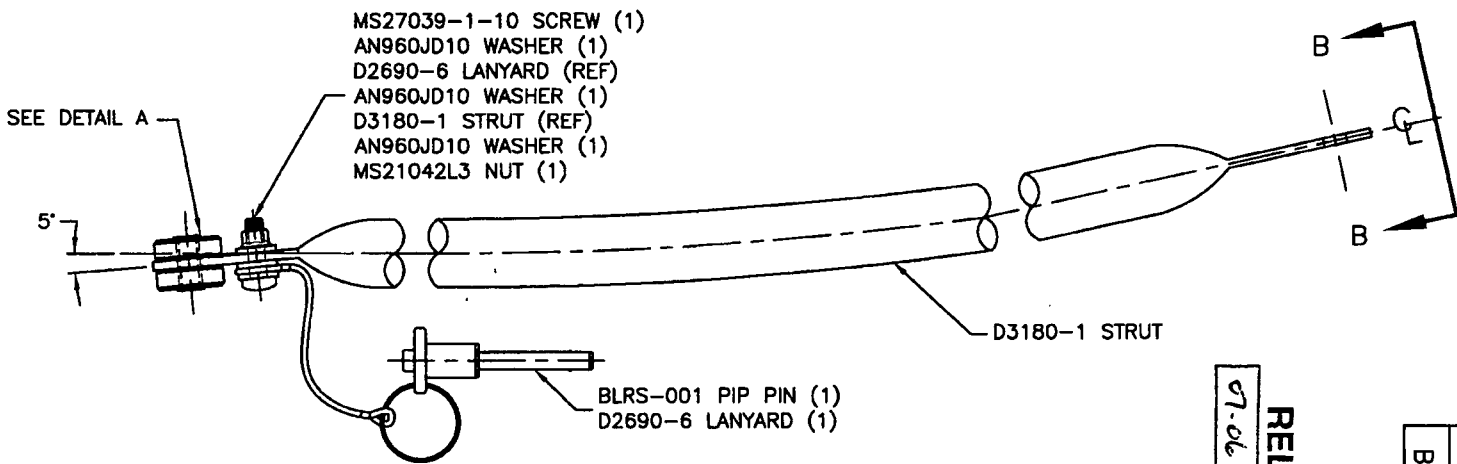
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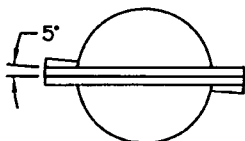
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CHECKED <i>CE</i>	APPROVED <i>DL</i>	DRAWING NO. D3180	REV. B SHEET 1 OF 2
DATE 07.05.23	TITLE STRUT ASSEMBLY	SCALE 1:2	
A	03.01.06	NEW ISSUE	
B	07.05.23	CURVE ADDED	

RELEASED
07.06.08

24425

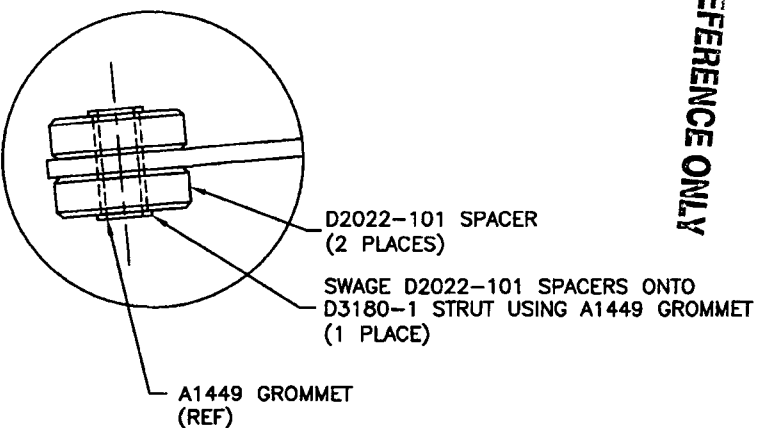


D3180-041 STRUT ASSEMBLY



VIEW B-B
SCALE 1:1

REFERENCE ONLY

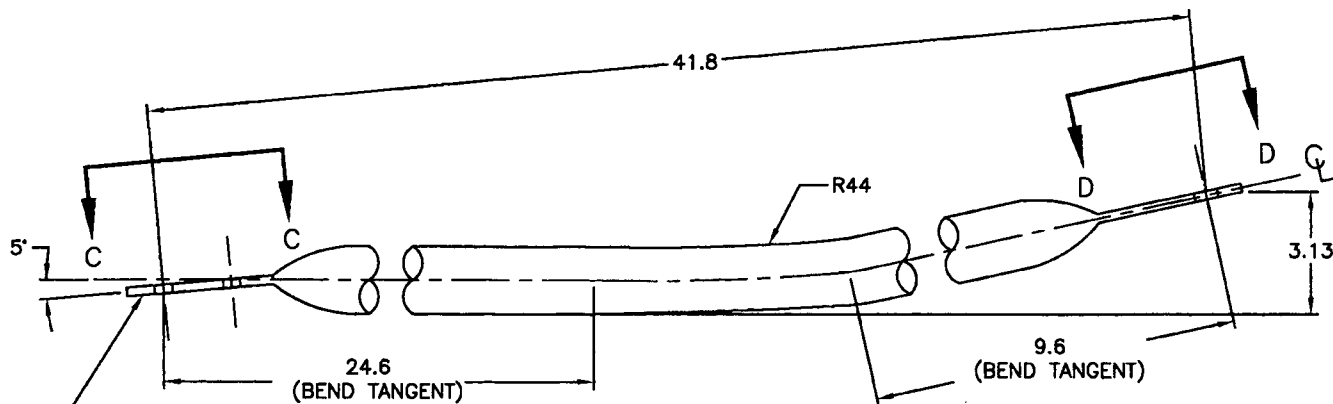


DETAIL A
SCALE 1:1

QTY	PART NUMBER	DESCRIPTION
-041	X	D3180-041
		STRUT ASSEMBLY
1	D3180-1	STRUT
1	D2690-6	LANYARD
2	D2022-101	SPACERS
3	AN960JD10	WASHER
1	MS27039-1-10	SCREW
1	BLRS-001	PIP PIN
1	MS21042L3	NUT
1	A1449	GROMMET

DART

DESIGN	APPROVED	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	DRAWING NO.	HAWKESBURY, ONTARIO, CANADA
DATE		TITLE	REV. B
07.05.23		STRUT ASSEMBLY	SHEET 2 OF 2
			SCALE
			1:2



D3180-1 STRUT

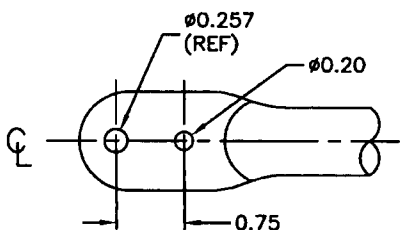
USE PUNCH DT8117
BOTH ENDS
(DIMS PER SPEC. CONTROL DWG D2638)

RELEASED

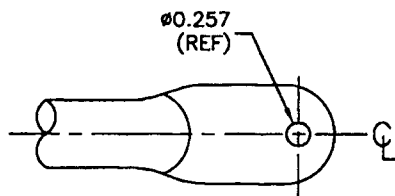
07.05.23

NOTES

- 1) MATERIAL: AISI 304/316/318 SS TUBE,
Ø0.75 X 0.065 WALL
(REF. DART SPEC M304TR0.750W.065)
- 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART
QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS
OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 6) IDENTIFY WITH PART P/N "D3180-041" USING
FINE POINT PERMANENT INK MARKER



VIEW C-C



VIEW D-D